AMENDMENTS TO THE CLAIMS:

Please replace the claims with the claims provided in the listing below wherein status, amendments, additions and cancellations are indicated.

1. (Currently Amended) A wavelength conversion laser apparatus comprising:

a semiconductor light emitting device [[,]] ;

an optical fiber having a tunable Bragg grating provided therein [[,]] and a fiber input end and a fiber output end;

an optical resonator formed of the semiconductor light emitting device arranged to input light into said optical fiber and receive reflected light from said optical fiber to effect a resonance at a resonance wavelength derermined by a grating wavelength of said Bragg grating, said optical resonator providing optical resonator output light at said resonance wavelength at an output end of said optical fiber;

a wavelength conversion device [[for]] formed of a nonlinear optical crystal formed from one of the group consisting of lithium niobate, lithium tantalate, MgO doped lithium niobate, and MgO doped lithium tantalate, and having a wavelength range for input light ranging from 900 nm to 1100nm, said wavelength conversion

device receiving as the [[an]] input light said optical resonator output light from [[an]] said optical resonator ~~which consists mainly of the semiconductor light emitting device and the optical fiber~~ and releasing a harmonic of the input light [[,]] ; and

a grating expanding means for expanding the tunable Bragg grating in [[its]] a lengthwise direction of the Bragg grating to match the resonance wavelength of the optical resonator output light ~~from the optical resonator~~ with the wavelength range of the input light [[where]] such that the resonance wavelength of the input light can be converted by the wavelength conversion device.

2. (Currently Amended) A wavelength conversion laser apparatus according to claim 1, wherein the grating expanding means comprises a base having a first retainer provided for securing the optical fiber, a movable nut arranged for slidably moving on the base and having a second retainer provided for securing the optical fiber, a lead screw threaded with the movable nut and an end engaging the base, and a rotating means for rotating the lead screw.

3. (Currently Amended) A wavelength conversion laser apparatus according to claim 1, wherein the grating expanding means comprises a bar-like heat-sensitive expandable member for securing the optical fiber at two locations between

which the tunable Bragg grating is installed and a heating means for heating the heat-sensitive expandable member to increase [[the]] a distance including the tunable Bragg grating between the two locations.

4. (Currently Amended) A wavelength conversion laser apparatus according to claim 3, wherein the heat-sensitive expandable member comprises two or more materials which [[are]] have different ~~in the~~ linear expansion ~~coefficient~~ coefficients and are bonded to each other.

5. (Currently Amended) A wavelength conversion laser apparatus according to claim 1, wherein the grating expanding means comprises a heat-sensitive expandable member of a ring or disk shape having an outer side ~~thereof arranged~~ on which a portion of the optical fiber including the tunable Bragg grating is wound and a heating means for heating the heat-sensitive expandable member to expand the outer side.

6. (Currently Amended) A wavelength conversion laser apparatus according to claim 1, wherein the grating expanding means comprises a bar-like piezoelectric member arranged to secure the optical fiber at two locations between which the tunable Bragg grating is installed and a voltage impressing means for

supplying the piezoelectric member with a voltage to increase [[the]] a distance between the two locations.

7. (Currently Amended) A wavelength conversion laser apparatus comprising:

a semiconductor light emitting device [[,]] ;

an optical fiber having a tunable Bragg grating provided therein [[,]] and a fiber input end and a fiber output end;

an optical resonator formed of the semiconductor light emitting device arranged to input light into said optical fiber and receive reflected light from said optical fiber to effect a resonance at a resonance wavelength determined by a grating wavelength of said Bragg grating, said optical resonator providing optical resonator output light at said resonance wavelength at an output end of said optical fiber;

a wavelength conversion device [[for]] formed of a nonlinear optical crystal formed from one of the group consisting of lithium niobate, lithium tantalate, MgO doped lithium niobate, and MgO doped lithium tantalate, and having a wavelength range for input light ranging from 900 nm to 1100nm, said wavelength conversion device receiving as the [[an]] input light said optical resonator output light from [[an]] said optical resonator ~~which consists mainly of the semiconductor light~~

~~emitting device and the optical fiber~~ and releasing a harmonic of the input light [[,]] ; and

a resonant wavelength adjusting means for adjusting the resonance wavelength of the optical resonator output light ~~from the optical resonator~~ in accordance with [[the]] temperature so as to maintain the harmonic of the light from the wavelength conversion device ~~constant or~~ substantially constant regardless of a change in the temperature of the wavelength conversion device by substantially matching a temperature induced shift of said wavelength range for input light of said wavelength conversion device.

8. (Currently Amended) A wavelength conversion laser apparatus according to claim 7, wherein the resonant wavelength adjusting means is a grating expanding means which is heat sensitive for expanding the tunable Bragg grating in [[its]] a lengthwise direction of the tunable Bragg grating.

9. (Currently Amended) A wavelength conversion laser apparatus according to claim 7, wherein the grating expanding means is a bar-like heat-sensitive expandable member which secures the optical fiber at two locations between which the tunable Bragg grating is located.

10. (Currently Amended) A wavelength conversion laser apparatus according to claim 8, wherein the grating expanding means is a heat-sensitive expandable member of a ring or disk shape having an outer side ~~thereof arranged~~ on which a portion of the optical fiber including the tunable Bragg grating is wound.

11. (Previously Presented) A wavelength conversion laser apparatus according to claim 9 or 10, wherein the heat-sensitive expandable member has a linear expansion coefficient of $5*10^{-5}$ [K^{-1}] - $6*10^{-5}$ [K^{-1}].

12. (Previously Presented) A wavelength conversion laser apparatus according to claim 9 or 10, wherein the heat-sensitive expandable member is made of a plastic material.

13. (Currently Amended) A wavelength conversion laser apparatus according to claim 9 or 10, wherein the heat-sensitive expandable member comprises two or more materials which ~~are different in the~~ have different linear expansion ~~coefficient~~ coefficients and are bonded to each other.

14. (New) A wavelength conversion laser apparatus comprising:

a semiconductor light emitting device;

an optical fiber having a tunable Bragg grating provided therein and a fiber input end and a fiber output end;

an optical resonator formed of the semiconductor light emitting device arranged to input light into said optical fiber and receive reflected light from said optical fiber to effect a resonance at a resonance wavelength determined by a grating wavelength of said Bragg grating, said optical resonator providing optical resonator output light at said resonance wavelength at an output end of said optical fiber;

a wavelength conversion device formed of a nonlinear optical crystal and has a wavelength range for input light, said wavelength conversion device receiving as the input light said optical resonator output light from said optical resonator and releasing a harmonic of the input light;

a resonant wavelength adjusting means for adjusting the resonance wavelength of the optical resonator output light in accordance with temperature so as to maintain the harmonic of the light from the wavelength conversion device substantially constant regardless of a change in the temperature of the wavelength conversion device by substantially matching a temperature induced shift of said wavelength range for input light of said wavelength conversion device;

said resonant wavelength adjusting means being a grating expanding means which is heat sensitive for expanding the tunable Bragg grating in a lengthwise direction of the tunable Bragg grating, said grating expanding means including:

first and second retainers securing the optical fiber at first and second position with said tunable Bragg grating disposed therebetween;

an adjustable lead screw;

said first retainer being movable in the lengthwise direction of the tunable Bragg grating by means of a threaded coupling with said lead screw;

said lead screw having an end rotatably disposed at a position fixed relative said second retainer; and

said lead screw being formed of heat sensitive material having a linear expansion coefficient sufficient to expand said tunable Bragg grating such that said resonance wavelength of the optical resonator output light remains within said temperature induced shift of said wavelength range for input light of said wavelength conversion device and said second harmonic output is substantially stable over a temperature range of operation.

15. (New) A wavelength conversion laser apparatus according to claim 14, wherein said linear expansion coefficient is in the range of $5*10^{-5}$ [K^{-1}] to $6*10^{-5}$ [K^{-1}].

16. (New) A wavelength conversion laser apparatus according to claim 15, wherein said nonlinear optical crystal is formed from one of the group consisting of lithium niobate, lithium tantalate, MgO doped lithium niobate, and MgO doped lithium tantalate.

17. (New) A wavelength conversion laser apparatus according to claim 16, wherein said wavelength range for input light ranges from 900 nm to 1100nm.

18. (New) A wavelength conversion laser apparatus according to claim 14, wherein said nonlinear optical crystal is formed from one of the group consisting of lithium niobate, lithium tantalate, MgO doped lithium niobate, and MgO doped lithium tantalate.

19. (New) A wavelength conversion laser apparatus according to claim 18, wherein said wavelength range for input light ranges from 900 nm to 1100nm.

20. (New) A wavelength conversion laser apparatus according to claim 14, wherein said wavelength range for input light ranges from 900 nm to 1100nm.